

CLAIMS

Having thus described the invention, what is claimed as new and desired to be secured by Letters Patent is as follows:

1. A method of producing a dimensionally stable fabric, said method
5 comprising the steps of:
 providing a yarn having a blend of wool fibers and fire-resistant synthetic fibers, the wool
 fibers comprising approximately 30% to 70% of the blend,
 weaving the yarn to form a fabric, and
 stabilizing the fabric dimensions to create a woven structure resistant to shrinkage for
10 use in aircraft and other transport interior applications.
2. The method of claim 1, wherein the step of providing yarn includes
providing synthetic fibers that comprise polyester fibers.
3. The method of claim 1, wherein the step of providing yarn includes
providing wool fibers having diameters of approximately 13 to 25 microns.
- 15 4. The method of claim 1, wherein the step of providing yarn includes
providing wool fibers having diameters of approximately 22 to 25 microns.
5. The method of claim 1, wherein the step of stabilizing comprises heat
setting the fabric.
- 20 6. The method of claim 1, wherein the step of stabilizing includes the steps
of securing the fabric within a stenter and heating the fabric to a temperature within the range
of 170 to 220°C for approximately 30 seconds.
7. The method of claim 1, wherein the step of stabilizing comprises
applying a coating to the fabric.
- 25 8. The method of claim 1, wherein the step of stabilizing comprises
applying a synthetic polymer coating to the fabric.
9. The method of claim 8, wherein said polymer comprises neoprene.

-10-

10. The method of claim 8, wherein said polymer comprises polyurethane.

11. A method of producing a dimensionally stable fabric, said method comprising the steps of:

providing wool fibers, an effective percentage thereof within a selected length range,

providing fire-resistant synthetic fibers,

spinning said fibers to produce a wool-synthetic blend yarn, the wool fibers comprising

approximately 30% to 70% of the blend,

weaving the yarn to form a fabric, and

heat setting the fabric to produce a fabric that passes aircraft manufacturer specifications.

12. The method of claim 11, wherein the fabric is produced to pass Airbus specification TL 25/5092/83.

13. The method of claim 11, wherein the fabric is produced to pass Boeing specification BMS 8-236.

14. The method of claim 11, wherein the step of spinning includes vortex spinning.

15. A method of producing a dimensionally stable fabric, said method comprising the steps of:

preparing wool fibers by stretch-breaking an effective percentage thereof to a length no greater than approximately five centimeters,

providing fire-resistant synthetic fibers,

spinning the fibers to produce a yarn having a wool fiber to synthetic fiber ratio in the

range of approximately 70:30 to 30:70,

weaving the yarn to form a fabric, and

dimensionally stabilizing the fabric.

16. The method of claim 15, wherein the spinning step includes delivering the fibers to a ring spinning apparatus for spinning the fibers into a yarn.

17. The method of claim 15, wherein the spinning step includes delivering the fibers to an air-jet spinning apparatus for spinning the fibers into a yarn.

-11-

18. The method of claim 15, wherein the spinning step includes delivering the fibers to a vortex spinning apparatus for spinning the fibers into a yarn.

19. The method of claim 15, wherein the step of dimensionally stabilizing includes applying a coating to the fabric thereby producing a dimensionally stabilized fabric
5 resistant to shrinkage.

20. The method of claim 15, wherein the step of dimensionally stabilizing includes applying sufficient heat to the fabric to set the fabric thereby producing a dimensionally stabilized fabric resistant to shrinkage.

21. The method of claim 20, wherein the step of applying sufficient heat
10 includes the steps of securing and heating the fabric within a stenter.

22. The method of claim 15, further including the step of applying zirconium fire retardant to the fabric.

23. The method of claim 22, further including the step of applying a coating to bind the zirconium fire retardant to the fabric.

-12-

24. A method of producing a dimensionally stable fabric, said method comprising the steps of:

preparing wool fibers by stretch-breaking an effective percentage thereof to a length no greater than approximately five centimeters,

5 providing fire-resistant synthetic fibers, an effective percentage thereof having a length no greater than approximately five centimeters,

vortex spinning the fibers to produce a yarn having a wool fiber to synthetic fiber ratio in the range of approximately 70:30 to 30:70, and

weaving the yarn to form a fabric.

10 25. The method of claim 24, wherein the fabric is produced to pass Airbus specification TL 25/5092/83.

26. The method of claim 24, wherein the fabric is produced to pass Boeing specification BMS 8-236.

15 27. The method of claim 24, further including the step of passing the fabric through a stenter, wherein sufficient heat is applied to set the fabric and produce a dimensionally stabilized fabric resistant to shrinkage.

28. The method of claim 24, further including the step of dimensionally stabilizing the fabric through application of a polymer coating.

20 29. The method of claim 24, further including the step of applying zirconium fire retardant to the fabric.

-13-

30. The method of claim 29, further including the step of applying a coating to bind the zirconium fire retardant to the fabric.

31. A method of producing fabric for aircraft and other transport interiors, said method comprising the steps of:

5 preparing wool fibers by stretch-breaking an effective percentage thereof to a length no greater than approximately five centimeters, vortex spinning the fibers to product a yarn, and weaving the yarn to form a fabric.

10 32. The method of claim 31, wherein the fabric is produced to pass Airbus specification TL 25/5092/83.

33. The method of claim 31, wherein the fabric is produced to pass Boeing specification BMS 8-236.

34. The method of claim 31, wherein the fabric produced is suitable for dry cleaning.

15 35. The method of claim 31, further including the step of applying zirconium fire retardant to the fabric.

36. The method of claim 35, further including the step of applying a coating to bind the zirconium fire retardant to the fabric.

20 37. The method of claim 31, further comprising the step of stabilizing the fabric dimensions to create a woven structure resistant to shrinkage for use in aircraft and other transport interior applications.

38. The method of claim 37, wherein the step of stabilizing comprises applying a synthetic polymer coating to the fabric.